## APPENDIX II
## CLEAN VERSION OF THE ENTIRE SET OF PENDING CLAIMS PURSUANT TO 37 CFR § 1.121 (c)(3)

12. An isolated nucleic acid sequence encoding a centromere-associated protein E gene product, said sequence encoding a protein having a plus-end directed core motor domain that has greater than 80% amino acid sequence identity to a *Xenopus* centromere-associated protein E core motor domain, comprising amino acid residues 1-324 of SEQ ID NO:1.

13. The isolated nucleic acid sequence of claim 12, wherein said sequence has a nucleotide sequence of SEQ ID NO:2.

15. The isolated nucleic acid sequence of claim 12, wherein said sequence encodes a protein having an average molecular weight of about 300-350 kDa.

43. An isolated nucleic acid sequence encoding a centromere-associated protein E gene product, said sequence encoding a protein having a core motor domain comprising amino acid residues 1-324 of SEQ ID NO:1.

44. The isolated nucleic acid sequence of Claim 12, wherein said sequence encodes a protein having a plus-end directed core motor domain that has greater than 85% amino acid sequence identity to said *Xenopus* centromere-associated protein E core motor domain.

45. The isolated nucleic acid sequence of Claim 12, wherein said sequence encodes a protein having a plus-end directed core motor domain that has greater than 90% amino acid sequence identity to said *Xenopus* centromere-associated protein E core motor domain.

46. The isolated nucleic acid sequence of Claim 12, wherein said sequence encodes a protein having a plus-end directed core motor domain that has greater than 95% amino acid sequence identity to said *Xenopus* centromere-associated protein E core motor domain.

**CLEAN VERSION OF REWRITTEN OR ADDED PARAGRAPHS PURSUANT TO 37 C.F.R. § 1.121(b)(1)(ii)**

Please cancel pending pages 63-70 (preliminary Sequence Listing) and replace with the official PatentIn sequence listing provided herein.

Please amend the following paragraphs in the specification as filed. These changes incorporate no new matter.

Page 6, Para 7 (Amended)

*Figure 1C: Deduced amino acid sequence of Xenopus CENP-E (SEQ ID NO:1).* cDNA sequence was compiled from 6 overlapping cDNA clones. Residues identical in hCENP-E and XCENP-E are shaded. The boxed region at the amino-terminus of the sequence is that portion of XCENP-E containing the motor domain and used to assay motility *in vitro*. The boxed sequence at the C-terminus is that portion of XCENP-E designated as the tail. The underlined sequence NSREHSINA (SEQ ID NO:3) at position 599 is the 9 amino acid relative insertion encoded by one of the cDNAs isolated (see Figure 1A). The putative NLS, RKKTK (SEQ ID NO:4), immediately adjacent to the boxed tail domain is underlined.

Page 27, Para 2 (Amended)

Either naturally occurring or recombinant CENP-E can be purified for use in functional assays. Naturally occurring CENP-E is purified, *e.g.*, from *Xenopus* and any other source of an XCENP-E homologue, such as *Drosophila* or fungi. Recombinant CENP-E is purified from any suitable expression system.

Page 53, Para 3 (Amended)

Immunoblotting of cultured *Xenopus* XTC cells using $\alpha$-CENP-$E_{TAIL}$ antibody revealed patterns of cell cycle-dependent localization similar to that observed for mammalian CENP-E (Yen, *et al., Nature* 359:536-539 (1992); Brown, *et al.*, J. Cell Sci. 109:961-969 (1996)) with the exception that during interphase XCENP-E was localized to the nucleus, consistent with the presence of a nuclear localization signal (Boulikas, *et al., Gene Express* 3:193-227 (1993)) at the C-terminal end of the rod domain (Figure 1A, NLS, and 1C underlined sequence,

RKKTK (SEQ ID NO:4)). Nuclear staining intensity was variable from cell to cell, probably reflecting different levels of XCENP-E accumulation, as observed for cytoplasmic CENP-E staining of interphase human cells (Yen, *et al., Nature* 359:536-539 (1992); Brown, *et al., J. Cell Biol.* 125:1303[:]-1312 (1994)).

## REMARKS

The Examiner requests Applicants file a computer readable form (CRF) in the above caption application. Applicants note, however, the computer readable form in the present case, application Serial Number 09/724,584, is identical to the CRF filed in a prior application, Serial Number 09/150,867 (application filed on 09/10/1998). Therefore, in accordance with 37 C.F.R. § 1.821(e), please use the computer readable form, which was mailed to the Office on April 8, 1999 in the prior application (application Serial Number 09/150,867) as the computer readable form in the instant application.

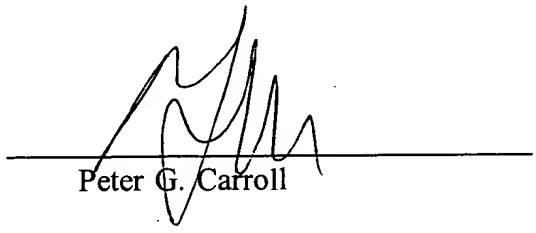
It is understood that the Patent and Trademark Office will make the necessary change in application number and filing date for the computer readable form that will be used for the instant application.

Applicants enclose a paper copy of the "Sequence Listing" along with an amendment to replace current Sequence Listing within the Specification (i.e., pages 63-70) of the instant application as filed as new pages 63-77. Furthermore, the paper copy of the "Sequence Listing" filed in the instant application is identical to the computer readable copy filed for the prior application (Serial Number 09/150,867).

## CONCLUSION

The Applicants believe that the Sequence Listing and specification amendments set forth above meet the Examiner's request. The contents of the paper and computer readable form are the same and include not new matter as compared to the sequencing data provided in the application as filed. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, the Applicants encourage the Examiner to call the undersigned collect at 617.252.3353.

Dated: March 12, 2003



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